PERMIT APPLICATION REVIEW
TEMPORARY COVERED SOURCE PERMIT NO. 0673-01-CT
Application for Renewal No. 0673-03

Company: Pacific Concrete Cutting & Coring, Inc.

Mailing Address: P.O. Box 662261
Lihue, Hawaii 96766

Facility: Crushing and Screening Plants

Location: Various Temporary Sites, State of Hawaii

Initial Location: TMK: 4-3-2-03:02, Lihue, Kauai

SIC Code: 1442 (Construction Sand and Gravel)

Responsible Official: Mr. Eli Brainerd
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PROPOSED PROJECT

Pacific Concrete Cutting & Coring, Inc. (PCCC) has submitted an application for permit renewal with modifications. PCCC is proposing to add a 500 TPH screen with a diesel engine considered an insignificant activity. The screen is currently permitted under temporary noncovered source permit no. 0636-01-NT, and will remain permitted under that permit. There will be no operating limitations for the proposed screen.

The total operating hours of the existing crushing plant with 390 hp diesel engine is currently limited to 11 hours per day and 1,800 hours in any rolling twelve-month (12-month) period. The limit of 11 hours per day was previously included in the permit to comply with the ambient air quality standards. The limit of 1,800 hours was previously included in the permit to limit NO_X emissions below the BACT threshold. The engine will be removed from the permit since it propels the crusher and is exempt pursuant to HAR §11-60.1-82(d)(4), which exempts internal combustion engines propelling mobile sources.

Process

The materials to be processed will consist of basalt rock, other types of rocks encountered at job sites throughout the State of Hawaii, and other material such as concrete that are suitable for crushing and recycling. Material will be loaded into the crusher and transferred to storage piles on the main conveyor belt. Fugitive emissions from the crusher will be controlled by water sprays. Fugitive emissions due to the stockpiles, yard area, and unpaved roads will be

controlled by a water truck. The screen may by operated in conjunction with the crusher or independently.

EQUIPMENT DESCRIPTION

1. 320 TPH Hartl mobile impact crusher, model no. PC 1270, serial no. 724120075 with water spray system;
2. 500 TPH Powerscreen mobile screen, model no. Turbo Chieftain 1400; and
3. Various conveyors.

AIR POLLUTION CONTROLS

The crusher is equipped with water spray bars with atomizer nozzles located over the impactor discharge point and the product conveyor head. Water trucks/water sprays will be used as necessary to minimize fugitive dust from plant operations, material transfer points, stockpiles, and plant roads.

APPLICABLE REQUIREMENTS

Hawaii Administrative Rules (HAR)
Title 11 Chapter 59, Ambient Air Quality Standards
Title 11 Chapter 60.1, Air Pollution Control
- Subchapter 1, General Requirements
- Subchapter 2, General Prohibitions
  - 11-60.1-31, Applicability
  - 11-60.1-32, Visible Emissions
  - 11-60.1-33, Fugitive Dust
  - 11-60.1-38, Sulfur Oxides from Fuel Combustion
- Subchapter 5, Covered Sources
- Subchapter 6, Fees for Covered Sources, Noncovered Sources, and Agricultural Burning
  - 11-60.1-111, Definitions
  - 11-60.1-112, General Fee Provisions for Covered sources
  - 11-60.1-113, Application Fees for Covered sources
  - 11-60.1-114, Annual Fees for Covered sources
  - 11-60.1-115, Basis of Annual Fees for Covered Sources
- Subchapter 8, Standards of Performance for Stationary Sources
  - 11-60.1-161, New Source Performance Standards
- Subchapter 9, Hazardous Air Pollutant Sources
- Subchapter 10, Field Citations

Standard of Performance for New Stationary Sources (NSPS), 40 Code of Federal Regulations (CFR) Part 60
Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants is applicable to the crushing and screen plants because the maximum capacity of the crusher is greater than 150 tons/hour, and the plants were manufactured after August 31, 1983.

Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines is not applicable to the 390 hp diesel engine because the engine is considered a nonroad engine as defined in 40 CFR §1068.30. Subpart IIII applies to stationary internal combustion engines that are not nonroad engines.

National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61
This source is not subject to NESHAPs because there are no standards in 40 CFR Part 61 applicable to this facility.

NESHAPs for Source Categories (Maximum Achievable Control Technology (MACT)), 40 CFR Part 63
Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) is not applicable to the 390 hp diesel engine because the engine is considered a nonroad engine as defined in 40 CFR §1068.30. Subpart ZZZZ applies to stationary internal combustion engines that are not nonroad engines.

Prevention of Significant Deterioration (PSD), 40 CFR Part 52, §52.21
This source is not subject to PSD requirements because it is not a major stationary source as defined in 40 CFR §52.21 and HAR, Title 11, Chapter 60.1, Subchapter 7.

Compliance Assurance Monitoring (CAM), 40 CFR 64
This source is not subject to CAM because the facility is not a major source. The purpose of CAM is to provide a reasonable assurance that compliance is being achieved with large emissions units that rely on air pollution control device equipment to meet an emissions limit or standard. Pursuant to 40 CFR Part 64, for CAM to be applicable, the emissions unit must: (1) be located at a major source; (2) be subject to an emissions limit or standard; (3) use a control device to achieve compliance; (4) have potential pre-control emissions that are 100% of the major source level; and (5) not otherwise be exempt from CAM.

Air Emissions Reporting Requirements (AERR), 40 CFR Part 51, Subpart A
AERR is not applicable because potential emissions from the facility do not exceed AERR thresholds.

DOH In-house Annual Emissions Reporting
The Clean Air Branch requests annual emissions reporting from those facilities that have facility wide emissions exceeding in-house reporting levels and for all covered sources. Annual emissions reporting will be required because this facility is a covered source.

Best Available Control Technology (BACT)
This source is not subject to BACT analysis because potential emissions are below significant levels. BACT analysis is required for new sources or modifications to sources that have the potential to emit or increase emissions above significant levels considering any limitations as defined in HAR §11-60.1-1.

Synthetic Minor Source
A synthetic minor source is a facility that is potentially major, as defined in HAR §11-60.1-1, but is made non-major through federally enforceable permit conditions. This facility is not a synthetic minor source because potential emissions do not exceed major source thresholds when the facility is operated without limitations for 8,760 hours/year.

INSIGNIFICANT ACTIVITIES / EXEMPTIONS

The 390 hp diesel engine powering the crusher is exempt in accordance with HAR §11-60.1-82(d)(4) because the engine is used to propel the crusher.

The 96 hp diesel engine powering the 500 TPH screening plant is considered an insignificant activity in accordance with HAR §11-60.1-82(f)(2) because the heat input capacity is less than one (1) MMBtu/hr (4.8 gal/hr x 0.14 MMBtu/gal = 0.67 MMBtu/hr).

Emissions from the permitted equipment and the 96 hp diesel engine are less than 100 tons per year.

ALTERNATIVE OPERATING SCENARIOS

The applicant did not propose any alternate operating scenarios.

PROJECT EMISSIONS

Crushing and Screening Plants

The maximum capacities of the crusher and screen were used to calculate emissions. Water sprays will be used to control PM emissions. Emissions were based on emission factors from AP-42 Section 11.19.2 (8/04) – Crushed Stone Processing and Pulverized Mineral Processing. Storage pile emissions were based on emission factors from AP-42 Section 13.2.4 (11/06) – Aggregate Handling and Storage Piles.

320 TPH Crushing Plant		
Pollutant	Crushing Plant Emissions (TPY)	Storage Pile Emissions (TPY)
	8,760 hr/yr	8,760 hr/yr
PM	2.8	11.9
PM-10	1.2	5.6
PM-2.5	0.3	0.9

500 TPH Screening Plant		
Pollutant	Screening Plant Emissions (TPY)	Storage Pile Emissions (TPY)
	8,760 hr/yr	8,760 hr/yr
PM	6.5	18.6
PM-10	2.3	8.8
PM-2.5	0.3	1.3

Vehicle Travel on Unpaved Roads

The maximum capacities of the crusher and screen were used to calculate emissions. A 70% control efficiency was assumed for water suppression to control fugitive dust. Emissions were based on emission factors from AP-42 Section 13.2.2 (11/06) – Unpaved Roads.

Vehicle Travel on Unpaved Roads	
Pollutant	Emissions (TPY) [8,760 hr/yr]
PM	14.0
PM-10	3.4
PM-2.5	0.3

Greenhouse Gas (GHG) Emissions

There are no GHG emissions because emissions from the crushing and screening plants are fugitive in nature.

Total Emissions

Total facility emissions are summarized in the table below.

Total Facility Emissions and Trigger Levels (TPY)					
Pollutant	Emissions (No Limits)	BACT Significant Levels	AERR Thresholds	DOH Levels	Storage Pile and Vehicle Travel Emissions
CO	0	100	1000	250	0
NO_X	0	40	100	25	0
SO_2	0	40	100	25	0
PM	9.3	25	-	25	44.5
PM-10	3.5	15	100	25	17.9
PM-2.5	0.6	10	100	-	2.5
VOC	0	40	100	25	0
HAPs	0	-	-	5	0

AIR QUALITY ASSESSMENT

An ambient air quality impact analysis (AAQIA) is not required for the proposed screening plant because emissions are fugitive in nature. The Department of Health air modeling guidance generally does not require an ambient air quality impact analysis for fugitive emissions.

SIGNIFICANT PERMIT CONDITIONS

1. Fugitive Emission Limits

    a. The permittee shall not cause to be discharged into the atmosphere from any crusher, fugitive emissions which exhibit greater than fifteen (15) percent opacity.
    b. The permittee shall not cause to be discharged into the atmosphere from any transfer point on the belt conveyors, screening operation, or from any other affected facility, fugitive emissions which exhibit greater than ten (10) percent opacity.

    Reason: 40 CFR 60, Subpart OOO, provisions.

CONCLUSION

PCCC has submitted an application for permit renewal with modifications. PCCC is proposing to add a 500 TPH screen to its permit. The 390 hp diesel engine will be removed from the permit since it propels the crusher and is exempt pursuant to HAR §11-60.1-82(d), which exempts internal combustion engines propelling mobile sources. Potential emissions were based on the maximum rated capacities of the equipment. Recommend issuance of the covered source permit subject to the incorporation of the significant permit conditions, 30-day public comment period, and 45-day Environmental Protection Agency review period.

Mark Saewong
October 13, 2014